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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

IRUNSMAN, D

ART UNIT

PAPER NUMBER

1755

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/544,212

Applicant(s)
Russo et al

Examiner
David M. Brunsmann

Group Art Unit
1755



☒ Responsive to communication(s) filed on 24 Mar 1998

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-55 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-55 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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The request filed on 30 March 1998 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 08544212 is acceptable and a CPA has been established. An action on the CPA follows.

This is a reissue application of US Patent 5,401,305. In a reissue application the claims are examined *de novo*.

Claims 1-55 are pending.

Claims 1-20, 22-26, 28-55 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for compositions, films and coating methods and coated articles including coating compositions comprising the TEOS, MBTC and an accelerant of triethyl borate, triethyl phosphate or water, does not reasonably provide enablement for inventions not using the recited silicon oxide precursors and inventions wherein the metal oxide precursor does not comprise a tin oxide precursor. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims.

The prior art cited in the patent is exemplary of the convincing evidence of record that the use of different materials in CVD-type coating processes requires substantially different process conditions not expected to be simply predictable by one of ordinary skill in the art. The discussion of the prior art at pages 1-4 of the specification teaches that a number of silicon oxide precursors are not useable for the purposes of the instant invention. One of ordinary skill in the art is given no further direction how to best choose those precursors that exhibit the required characteristics.

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For example, US 4206252 describes a process in which volatile silicon oxide precursors are required to have Si-Si and Si-H bonds to be useful in the described invention. US 5028566 explicitly teaches some compounds are unsuccessful when the described process is attempted. The compounds employed in US 4187336 are described by the instant inventors as producing insufficient deposition rates. As stated in the instant specification: "From a review of the prior art, it cannot be determined what precursor combinations, if any, can be used for continuous deposition, under conditions and at a rate suitable for mass production, of mixed metal oxide/silicon films at adequate rates from readily available and relatively inexpensive reagents." If one of ordinary skill in the art cannot predict which compounds are suitable for use under the broad range of conditions described as "under conditions and at a rate suitable for mass production", one of ordinary skill in the art certainly could not be expected to predict the conditions at which a large number of vastly different compounds may be used without explicit guidance by the instant specification. No evidence is of record to show that selecting the process conditions necessary to exploit each of the large number of precursor combinations would have been within the level of ordinary skill in the art at the time the inventions was made. In fact, the instant specification implies just the opposite. Column 4, lines 13-38 of the patent under reissue require the presence of a silicon oxide precursor in the coating composition of the broadest invention described. With respect to accelerants, the instant specification demonstrates that the system temperature is dependent upon the material employed as accelerant. Water, triethylphosphite and triethyl borate are demonstrated as effective and the system temperature at

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which they must be employed is disclosed (see tables 1 and 2). Other materials, such as added MBTC or oxygen, alone, are described as insufficient. No further guidance is provided to allow one of ordinary skill in the art at the time the invention was made to determine useful accelerants without undue experimentation. Column 7, lines 28-32 teach that the combination of an accelerant of TEP or TEB and TEOS/MBTC are synergistic with respect at least to the process condition of deposition rate providing further evidence that determining the required process conditions would ~~not~~ require undue experimentation on the part of one of ordinary skill in the art.

Claims 33-55 are rejected under 35 U.S.C. § 251. The original application contained claims to a coating composition containing an tin oxide precursor compound and an silicon oxide precursor compound. These claims were rejected as being unsupported by the original specification in that only certain species of silicon oxide precursor were enabled. In response to this rejection applicant limited the claims to compositions wherein the silicon oxide precursor was limited to the species recited in patented claim 1. Instant claims 33-55 expand the scope of the invention to include any compound including those specifically included in the original rejection. Clearly, if the coating composition to be used is not enabled, claims to processes of using and products made therefrom cannot be enabled. "The recapture rule bars the patentee from acquiring, though reissue claims that are of the *same or broader scope* than those claims that were canceled from the original application." *Ball Corp. v. United States*, 221 USPQ 289, 295; see also *In re Willingham*, 127 USPQ 211; *In re Richman*, 161 USPQ 359 and; *In re Wadlinger, Kerr and Rosinski*, 181 USPQ 826. Reissued claims must include limitations made in the original

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application to overcome the rejection therein. See, *Mentor v. Coloplast*, 27 USPQ2d 1521, 1524.

The prosecution history of the application which matured into US Patent 5401305 show that the examiner rejected Claims 1-10, 14-23, 25 and 26, including all the independent claims, as the specification being enabled only for compositions wherein the silicon oxide precursor is limited to that recited in original claim 11. In response to this action applicant's amended the claims to limit them to compositions comprising at least one of those silicon oxide precursors. Any confusion caused by examiner's use of "metallic" to described silicon, the propriety of which varies from art to art, is regretted.

Claim 30 is rejected under 35 U.S.C. 112(4), as failing to further limit the parent claim as a silicon oxide precursor is already required by the parent claims as amended.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 33-35, 37-41, 43-55 are rejected under 35 U.S.C. 102(b) as being anticipated by Gordon US Patent 4,187,336.

The reference teaches depositing by CVD an amorphous, continuously graded mixed tin/silicon oxide film on glass from a gaseous composition of a tin oxide precursor, a silicon oxide precursor and water or oxygen gas at 480 C. See example 4, Table E, column 6, lines 1-56. The

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similar materials, conditions and process employed would be expected to produce similar products.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-32, 36 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Gordon as applied above, and further in view of Lagendijk.

The difference between claims 28-32 and Gordon is the silicon oxide precursor employed. Lagendijk teaches that silicon oxide precursors within the scope of the instant claims are advantageous for use in CVD. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ those compounds in order to obtain the disclosed advantages.

The difference between claims 36 and 42 and the instant claims is the compound employed as accelerant. Lagendijk teaches addition of trimethylborate or triethylphosphite to CVD compositions. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add triethylphosphite to the composition of Gordon in order to obtain the advantages disclosed by Lagendijk.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Brunsman whose telephone number is (703) 308-3454. The examiner can normally be reached on Mondays, Tuesdays, Thursdays and Fridays from 6:30 am to 5:00 pm eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached on (703) 308-3823. The fax phone number for this Group is (703) 305-3599.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [mark.bell@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

DMBrunsman
July 6, 1998



David M. Brunzman
Primary Examiner
Group 1755